

**REMARKS**

Claims 1-12 are currently pending in the subject application, and are presently under consideration. Claims 1-12 are rejected. Claims 1, 5-7, 11, and 12 have been amended. Claims 4 and 10 have been cancelled. Favorable reconsideration of the application is requested in view of the amendments and comments herein.

**I. Rejection of Claims 4-6 and 10-12 Under 35 U.S.C. §112, First Paragraph**

Claims 4-6 and 10-12 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Withdrawal of this rejection is respectfully requested for at least the following reasons.

In the Office Action dated July 18, 2008 (hereinafter "Office Action"), the Examiner asserts that the statement "'it is well known that UWB technology is carrier-less (carrier free)' is contradicted in the instant application," (Office Action, page 2). Representative for Applicant respectfully submits that, while the Present Application provides a direct statement to support the above language (see Present Application, paragraph 2), the Specification of the Present Application has been amended to delete references to the word "carrier" with respect to a frequency of a UWB pulse to alleviate any possible inconsistency and misinterpretation. Claims 6 and 12 have likewise been amended.

However, with respect to the above amendment, the word "carrier" only appeared in claims 6 and 12 prior to amendment, which depend from claims 4 and 10, now cancelled, respectively. The Examiner thus appears to be rejecting claims 4 and 10 not on the basis of reference to "carrier frequency" in describing UWB pulses, but on the basis of a lack of description in the Specification of the Present Application of how to "control the frequency band and antenna array" to provide enablement for one of ordinary skill in the art to assign to each user a unique combination of a UWB frequency and an antenna array, as recited in claims 4 and 10, now cancelled.

Representative for Applicant respectfully maintains that UWB pulses are wirelessly transmitted, and so must occupy a frequency band for wireless transmission (see *e.g.*, Present

Application, paragraphs 1-3). As is widely known in the art of any type of wireless communication, wireless transmission must occur at a given frequency or band of frequencies, such as based on implementing an analog oscillator and an antenna to propagate a wireless signal through atmosphere. Generating wireless signals at specific frequencies has been implemented since the origins of wireless communication. With respect to UWB pulses, the Present Application provides substantial description as to how UWB pulses are generated, and that they occupy a very wide band of frequencies which can be inefficient for multiple users (Present Application, paragraphs 1 and 2). The Present Application also describes the manner in which individual UWB frequencies are assigned to individual users in a more efficient manner based on frequency reuse (Present Application, paragraph 16). The technique described therein merely states that the UWB pulse is generated at a specific frequency for an individual user at each antenna array of the UWB antenna structure (*Id.*). One of ordinary skill in the art of UWB communications would certainly be enabled to generate a UWB pulse at a specific frequency or frequency range based on the disclosure of the Present Application.

In addition, the Present Application describes in great detail how the UWB antenna structure can generate multiple, spatially separated antenna beams, each directed toward a separate user antenna, such that multiple UWB user channels can be spatially interleaved within a given time period (see, *e.g.*, Present Application, paragraphs 13 and 14). Specifically, individual user beams are simply generated on specific antenna arrays of the antenna structure, such as part of a unique combination of antenna array of the antenna structure, as also recited in the claims 4 and 10, now cancelled (Present Application, paragraph 13). One of ordinary skill in the art of UWB communications would certainly be enabled to generate a UWB pulse on a specific antenna array of a UWB antenna structure based on the disclosure of the Present Application.

For the reasons described above, one of ordinary skill in the art would be enabled to assign to each user a unique combination of a UWB frequency and an antenna array, as recited in claims 4 and 10, now cancelled. One of ordinary skill in the art would also be enabled to reuse a plurality of available frequencies in a spatial sequence such that the beam associated with any

user is spatially separated from other user beams using the same frequency, as recited in claims 6 and 12. Therefore, for these reasons, withdrawal of the rejection of claims 4-6 and 10-12 under 35 U.S.C. §112, first paragraph, is respectfully requested.

## **II. Rejection of Claims 1-3 and 7-9 Under 35 U.S.C. §103(a)**

Claims 1-3 and 7-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 2005/0090200 to Karaoguz, et al. ("Karaoguz") in view of U.S. Patent No. 7,042,417 to Santhoff, et al. ("Santhoff"). Claims 1 and 7 have been amended to substantially incorporate the elements of claims 4 and 10, now cancelled. Because claims 4-6 and 10-12 have not been substantively rejected in the Office Action, Representative for Applicant assumes that claims 4-6 and 10-12 are merely objected to as dependent from a rejected base claim pending withdrawal of the rejection under 35 U.S.C. §112, first paragraph, as addressed above, as also noted in the Response to the Office Action dated January 22, 2008, filed April 8, 2008, with reference to MPEP, §2163. Therefore, because claims 4-6 and 10-12 are enabling to one of ordinary skill in the art, as described above, and because claims 4-6 and 10-12 are not otherwise substantively rejected under 35 U.S.C. §102 or §103, claims 1 and 7 should be in condition for allowance. Withdrawal of the rejection of claims 1 and 7, as well as claims 2 and 3 and claims 8 and 9 which depend therefrom, respectively, is respectfully requested.

**CONCLUSION**

In view of the foregoing remarks, Applicant respectfully submits that the present application is in condition for allowance. Applicant respectfully requests reconsideration of this application and that the application be passed to issue.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

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